



Role of Major Institutions in Promoting Agri-Entrepreneurs in India

Aneeja Guttikonda¹, N Sivaramane², R Sivaprasad³ and Kasturi S.V. Sekhar⁴

¹Chief Technical Officer, ICAR-National Academy of Agricultural Research Management (NAARM), Hyderabad, India

Email: aneeja@naarm.org.in

²Principal Scientist, ICAR-National Academy of Agricultural Research Management (NAARM), Hyderabad, India

Email: sivaramane@naarm.org.in

³Former Head, Department of Social Anthropology, University of Hyderabad, Hyderabad, India

Email: sivaprasad53@gmail.com

⁴Head - Statistical Cell, IIIT, Hyderabad, India

Email: vijay@iiit.ac.in

Received: 12 Dec 2025; Received in revised form: 10 Jan 2026; Accepted: 15 Jan 2025; Available online: 25 Jan 2026

©2025 The Author(s). Published by Infogain Publication. This is an open-access article under the CC BY license

(<https://creativecommons.org/licenses/by/4.0/>).

Abstract— *Agri-entrepreneurship is a critical driver for innovation and sustainable development in India's agrarian economy. Supporting institutions such as government bodies, financial organizations, research institutions, and agricultural extension services play a pivotal role in fostering agri-entrepreneurship by providing technical know-how, funding, market access, and policy support. The study was done to assess the role of institutions in promoting agripreneurs. This paper explores the multifaceted role of these institutions in empowering farmers and agripreneurs to adopt innovative practices, diversify their enterprises, and access value chains more effectively. Through case studies and policy analysis, the paper examines the impact of institutional support for entrepreneurship in enhancing productivity, addressing challenges such as market volatility, and promoting agribusiness models that contribute to rural employment and economic growth. The research underscores the importance of strengthening these institutions for incubation and capacity building; enhanced financial access; promote market linkages and value-chains; digital and climate-smart agriculture; regulatory ease and compliance support to create an enabling environment for agricultural entrepreneurship, ultimately leading to more resilient and competitive agricultural sectors in India.*



Keywords— *Entrepreneurship; Agribusiness Startups; Innovation in Agriculture; Technology Adoption, Agripreneurs; Market Linkages.*

I. INTRODUCTION

Agriculture has long been central to India's economy, ensuring food security and rural livelihoods. Though its share of Gross Value Added (GVA) declined from about 35% in 1990–91 to 15% in 2022–23 (GoI, 2024), the sector continues to grow at around 4% annually (Ramakumar, 2024). Nearly 45–50% of India's workforce still depends on agriculture (Goldar & Aggarwal, 2024; Chandrasekhar & Kumar, 2024), underscoring its persistent socio-economic role amidst structural transformation.

Agri- entrepreneurship has become a key force for growth, innovation, and rural development. Driven by technology and market-oriented models, agri-entrepreneurs enhance productivity, diversify into agribusiness, and add value through processing, boosting incomes and reducing rural-to-urban migration. Startups in agriculture and allied sectors have risen from fewer than 50 before 2014–15 to over 7,000 in 2023 (IBEF, 2023) supported by government subsidies, credit, technical assistance, and policy reforms. This paper aims to bring out the role of different institutions in promoting entrepreneurship in agriculture besides focussing on innovations and challenges faced by them.

Innovation remains central, with adoption of precision agriculture, IoT, and biotech, along with digital platforms and eco-friendly practices in agri-business sector. Further, entrepreneurs are investing in rural infrastructure in the form of cold storage, logistics, processing, etc., and provide training, empowering youth and women while fostering inclusivity. These shifts, are further, strengthen food security, create jobs, and mark a transition from subsistence farming to a diversified, sustainable, and innovation-led agricultural sector, underpinned by economic liberalization and policy support.

The academic literature corroborates the significance of these institutional frameworks. Reviews of agri-entrepreneurship research emphasize the importance of formal institutions such as government and private institutions involved in extension and finance, and training centres, alongside informal systems like cooperatives and self-help groups (Dias, 2019). Empirical studies conducted in India reveal that entrepreneurial intent among agricultural college students and rural youth is significantly enhanced when institutional support—training, incubation, and financial linkages—is present (Amaran, 2025; Pan, 2024). Similarly, institutional profiling across Indian states has shown substantial heterogeneity in capacity and effectiveness, suggesting a need for stronger coordination among universities, NABARD, KVKs, ATMA, and private sector incubators (Kademanı et al., 2024).

It was reported that entrepreneurship training, incubation, youth-focused programmes, and value-chain linkages have proven effective in diversifying incomes and modernizing agriculture in developing countries (FAO, 2022; World Bank 2024a, 2024b). For instance, FAO's initiatives to unleash the potential of young agripreneurs stress the necessity of combining skills training with access to finance (FAO, 2013), while World Bank-supported agribusiness projects in Assam and Uttar Pradesh illustrate how institutional interventions can strengthen farmer producer organizations and agri-clusters (World Bank, 2024a, 2024b). Comparative insights from Laos, where young agripreneurs' perceptions of institutional support have been studied, further emphasize the universality of these institutional needs in fostering agribusiness (Thephavanh et al., 2023). National institutions of repute—ranging from KVKs, ATMA, and NABARD to multilateral organizations—are critical drivers of agricultural entrepreneurship. Their roles in providing finance, extension, training, incubation, and market linkages not only promote self-employment and innovation but also contribute to broader rural transformation.

II. METHODOLOGY

The study employed a mixed-method approach, combining qualitative and quantitative analyses to assess the role of major institutions in promoting agri-entrepreneurship in India. The research was based on deductive / inductive secondary data collected from institutional reports (NABARD, ICAR, APEDA, and NITI Aayog), government documents, academic journals, and official databases such as IBEF, FAO, and World Bank reports, etc. including all agriculture sub-sectors. Deductive / inductive methods are adopted besides a qualitative case study approach to highlight success stories and institutional linkages of selected agri-startups. Data were compiled from official websites, published articles, and industry reports, and presented through graphical and tabular forms.

The study adopted a descriptive and analytical design, structured to examine institutional roles in financing, incubation, training, and policy facilitation. Comparative and trend analyses were used to evaluate the evolution and performance of institutional support mechanisms from 2010–2025. Quantitative data were analysed using trend and descriptive statistics to interpret the growth of agri-startups, funding patterns, and institutional outreach, and are presented in graphical and tabular forms. Qualitative insights were derived through thematic analysis of policy frameworks, institutional models, and entrepreneurial outcomes.

III. EMERGENCE AND GROWTH OF AGRI-ENTREPRENEURSHIP IN INDIA

Traditionally, Indian agriculture relied on smallholder farming with limited market access and high post-harvest losses, but the liberalization of the economy in the 1990s and subsequent policy shifts created space for private innovation. The major boost came after 2014 with initiatives such as Startup India, Rashtriya Krishi Vikas Yojana – Innovation and Agri-Entrepreneurship Development Programme (RKVY-RAFTAAR), and the establishment of agri-business incubation centres, which encouraged youth participation in the sector. Under the government's RKVY, around 1,708 agri-startups received financial and technical support between 2019–20 and 2023–24, with Maharashtra (226), Karnataka (211), and Tamil Nadu (137) emerging as leading states, followed by Telangana, Kerala, and Uttar Pradesh (Global Agriculture, 2024). In addition, industry estimates suggest that India hosts more than 1,500 agritech startups as of early 2025, reflecting a strong private-sector ecosystem in digital farming, supply-chain solutions, and precision agriculture. These variations in reported figures arise from differences in definition—whether counting all startups in agriculture

and allied sectors, those formally recognized by DPIIT, or those supported under government schemes—but the overall trend clearly shows India's agricultural innovation ecosystem scaling rapidly over the past decade. The parallel rise of digital technologies like AI, IoT, blockchain, and mobile applications—enabled agritech startups to address challenges in supply chains, financial access, precision farming, and direct farmer–consumer linkages (AgroSpectrum, 2025).

Investment flows from venture capital and corporate partnerships further supported scalability, with states like Maharashtra, Karnataka, and Tamil Nadu emerging as key

hubs due to their stronger incubation ecosystems. As a result, the number of agri-startups in India surged to over 7,000 by 2024 (Fig.1), reflecting a structural transition from subsistence farming toward innovation-driven, market-oriented, and technology-enabled agri-entrepreneurship (IBEF, 2024). The trend indicates the rapid acceleration after 2015, coinciding with policy support, digital innovation, and rising investor interest. This growth further highlights the sector's role not only in addressing agricultural inefficiencies but also in driving rural development, employment generation, and sustainable food systems.

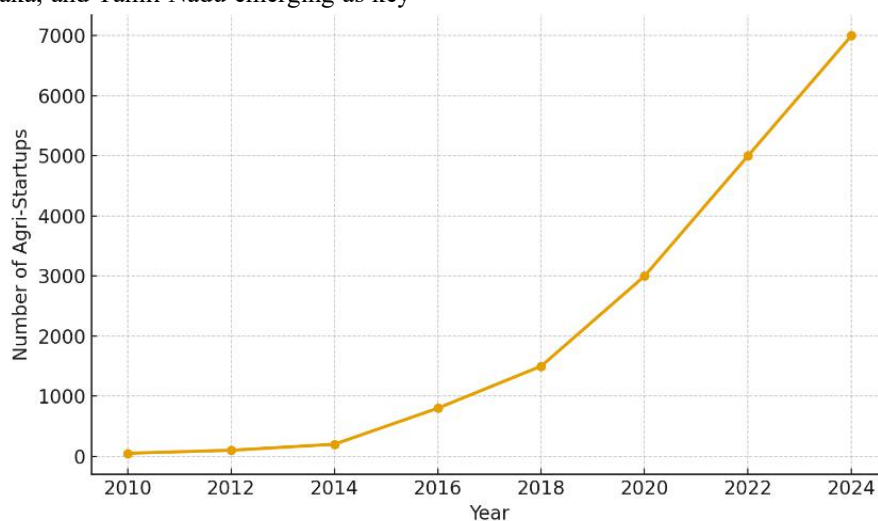


Fig. 1: Trends in agri-startup formulation in India during 2010-2024

Source: IBEF, 2024

IV. AGRI-STARTUPS IN INDIA: STATUS AND PERFORMANCE

There are many start-ups in agri and agri-businesses sector. There is a clear indication of youngsters leading the way. They make presence in areas such as marketing solutions, inputs supply, supply chain and logistics, precision agriculture, grading and quality control, food quality assessment, logistics solutions, capacity building, etc. (Table-1). A case of successful start-up is given below to learn the details of journey of the start-up.

Bharatrohan Airborne Innovation Pvt. Ltd., founded in 2017 in New Delhi by Amandeep Panwar and Rishab Chowdhary, is an agri-tech startup offering precision farming solutions using drone-based hyperspectral imaging and analytics. The company provides insights on crop health, soil conditions, and yield forecasts to help farmers make data-driven decisions. Its services include precision agriculture, real-time monitoring, soil mapping, and

customized crop solutions supported by a skilled team of engineers, agronomists, and data scientists. Bharatrohan's technology enables early detection of pests, diseases, and nutrient deficiencies, optimizing fertilizer and pesticide use. This startup was incubated at a-IDEA (ICAR-NAARM) from 2016–19, and operates on both B2B and B2C models. It raised \$36.8k each from a-IDEA and Upaya Social Ventures, securing a post-money valuation of \$805k and earning recognition among the top global agri-startups. Financially, it recorded revenues of Rs 1 crore in 2019–21, a profit of Rs 0.1 crore in 2020–21, and reached a Rs 2 crore turnover in 2022. The company also won the Best Startup Award at the 2019 International Agriculture and Horticulture Expo. By offering affordable, easy-to-use UAV solutions, it supports smarter, more sustainable farming and strengthens farmer resilience. Like Bharatrohan, many other agri-startups are also working toward solving challenges faced by small farmers across India.

Table – 1: Sector-wise list of top agri start-ups in India

Sl.no.	Sector	Start-Up Names
1.	Capacity Building	Adrise India Pvt. Ltd., BharatAgri, cultYvate, Star Agribazaar Tech Ltd., Krushak Mitra Agro Services, Kshitiz Women SHG, Mandya OrganicFoods, Nurture Agtech (nurture.farm)
2.	Food Quality Assessment	AgNext Technologies, Praman.Ai, Agrograde, Saptkrishi Scientific, Ecozen Solutions, Fanidhar Agrotech, Freshokartz Agri Products, Vesatogo Innovations
3.	Marketing Solutions	AgriBolo, Farmers Fresh Zone, Farmpal, MeraKisan Pvt. Ltd., Organic Farmers Market, Waycool Foods & Products, BigHaat Agro Pvt. Ltd., Sahyadri Farms
4.	Logistics Solutions	Agrigator, Agrowave, Ninjacart, GramworkX Agrotech, Freshokartz, Star Agribazaar Tech, Farmpal, KisanSaathi
5.	Inputs Supply	Agriplex Pvt. Ltd., AgroStar, Jai Kisan, BigHaat Agro Pvt. Ltd., Fanidhar Agrotech, Vesatogo Innovations, EF Polymer Pvt. Ltd., Mandya OrganicFoods
6.	Renewable Energy Solutions	AgriVijay, Raheja Solar Food Processing, Ecozen Solutions, Apex Coco & Solar Energy, Han Agrocure LLP, Bastar Se Bazaar Tak, Soumya Foods Pvt. Ltd., Terraphilic Innoventures
7.	Grading & Quality Control	Agrograde, Praman.Ai, Saptkrishi Scientific, Star Agribazaar Tech, Siksha Infotech, GramworkX Agrotech, Freshokartz, Fanidhar Agrotech
8.	Precision Agriculture	BharatRohan Airborne Innovations, Agrotech Risk Pvt. Ltd., Cropin Technology Solutions, Fasal (Wolkus Technology), cultYvate, Waycool Foods & Products, Bhungru, Nurture Agtech
9.	Supply Chain & Logistics	Agrowave, Ninjacart, GramworkX Agrotech, Farmpal, Star Agribazaar Tech, Bhungru, Waycool Foods & Products, Sahyadri Farms

Source: NITI Aayog - Compendium of 75 Agri Entrepreneurs and Innovators, 2023

V. CHALLENGES FACED BY AGRICULTURAL ENTREPRENEURS

Though the start-up ecosystem looks rosy, agricultural entrepreneurs face various challenges that can hinder their efforts to develop and sustain successful agribusiness ventures including growth and profitability. These challenges stem from a combination of several factors like structural, economic, social, and environmental.

Some of the challenges faced by agripreneurs are:

- Limited access to funding: Incubators require significant financial resources to operate and support their startups, but securing funds can be difficult in regions with limited investment opportunities. It further makes it difficult for them to invest in their ventures, purchase necessary equipment, and scale their operations.
- Lack of skilled human resources: Finding experienced and skilled professionals to mentor and guide startups can be challenging in smaller cities and towns. On the contrary, ensuring access to quality inputs like seeds and fertilizers is another challenge, as counterfeit products can harm crop yields. Promoting sustainability and eco-friendly practices is difficult, given limited awareness and resources esp. among small farmers. Skilled labour shortages, particularly as rural youth shift to non-agricultural sectors, and migration to urban areas exacerbate operational difficulties.
- Infrastructure and connectivity issues: Inadequate rural infrastructure, including transportation, storage, and processing facilities, limits the agripreneurs' performance. Access to high-speed internet, reliable electricity, and other basic infrastructure can be inconsistent in some parts of the country, making it difficult for incubators and startups to operate effectively.
- Limited access to markets: Many startups struggle to scale their businesses due to limited access to markets beyond their local region. They are more vulnerable to price volatility, which affects income stability. Establishing market linkages and adding value through processing can be especially tough for small entrepreneurs, who also face stiff competition in both domestic and international markets.

- **Regulatory challenges:** Startups often face regulatory hurdles that can impede their growth. This includes issues related to licensing, permits, and compliance with local laws and regulations. Fragmented landholdings complicate efforts to achieve economies of scale, while complex regulatory frameworks and changing policies add administrative burdens. Agriculture's inherent risks, such as weather, pests, and diseases, further exacerbate uncertainty, with entrepreneurs lacking adequate risk mitigation tools and insurance.

Besides, entrepreneurs also lack access to timely agricultural information and extension services, hindering informed decision-making. Navigating institutional support is often complex, with many agripreneurs are unaware of the available resources.

VI. INSTITUTIONS SUPPORTING ENTREPRENEURSHIP IN AGRICULTURE

Institutional support is very critical to groom the entrepreneurs for establishing their start-ups. These institutions include government departments/bodies, financial organizations, research centres, educational

institutions, incubation centres, Private organizations, MNCs, etc. (Table-2). They act as catalysts for innovation and sustainability in agriculture and allied areas by providing essential resources, financial assistance, technical know-how, knowledge, and market linkages. Institutional support in fostering agri-entrepreneurship and driving innovation within the sector in various forms, including:

- **Financial assistance:** Grants, subsidies, loans, and equity investments
- **Technical expertise:** Training, workshops, extension services, and business advisory support
- **Infrastructure development:** Building markets, cold storage facilities, and transportation networks
- **Policy and regulatory reforms:** Creating a conducive environment for entrepreneurship through regulations and incentives

Besides, they also offer training programs, access to credit, technology adoption, and policy support, thereby empowering entrepreneurs to scale up operations and improve productivity. Thus, their role is crucial in enhancing rural livelihoods, promoting agribusiness startups, and driving economic growth in India's agriculture sector.

Table-2: Institutions supporting entrepreneurship in agriculture

Category	Institutions	Provisions
Government organizations (both central and state)	SFAC, APEDA, NIF, KVKs, NHB, NSDC, T-hub We-hub, MSME	Grants, free or low fee incubation & acceleration process; low priced debt funds & seed funds
Research organizations	i) ICAR-ABI ii) SAUs iii) DBT iv) DST v) Deshpande Society vi) IITs vii) IIMs	i). Technology development and commercialization ii) Technology Co-development iii) Access to Laboratories iv) Researchers and Students taking start-ups
Investors	Angel investors, venture capitalists, private institutions, high net- worth individuals (HNIs), etc.	Investment
Lending institutions and Bankers	NABARD, PSBs like SBI, CBI, and also PVT banks	Loans and investment
Private Institutions	NGOs, Private labs, etc.	Investment, capacity building

6.1. Government Organizations

The central government has conceptualized innovative StartupIndia programme in 2016 to promote entrepreneurship across the sectors including agriculture. Since then, many entrepreneurs entered into start-up

ecosystem with their innovative ideas. The following are the organizations involved in agri-entrepreneurship promotion in India.

- **National Bank for Agriculture and Rural Development (NABARD)** provides refinance option

for banks to promote agriculture and rural development. It has promoted Self-Help Groups in India SHG-Bank Linkage Programme (SHG-BLP). As of 2023–24, India had 1.44 crore SHGs with bank deposits and 77.4 lakh SHGs credit-linked, channelling loans worth over ₹2.09 lakh crore (NABARD, 2024a, 2024b). Such access to microfinance has enabled rural households, particularly women, to invest in agri-based enterprises and diversify income sources (Pandhare, 2024). Further, NABARD extends support through capacity-building programmes, Rural Business Incubation Centres (RBICs), and commercialization of agri-technologies (NABARD, 2025).

- Small Farmers' Agri-Business Consortium (SFAC) is dedicated to supporting small and marginal farmers in forming and managing agri-business enterprises. It helps farmers access markets, technology, and credit, and provides training and capacity-building support to enhance their entrepreneurial skills.
- Agricultural and Processed Food Products Export Development Authority (APEDA) focuses on promoting agricultural exports from India. It supports agricultural entrepreneurs by facilitating market access, providing quality certification, and promoting value-added agricultural products for export.
- National Innovation Foundation (NIF) encourages grassroots innovations and inventiveness in agriculture. It identifies and promotes innovations by rural entrepreneurs, providing them with intellectual property rights and financial support to scale up their inventions.
- Krishi Vigyan Kendras (KVKs) are agricultural extension institutions supported by Indian Council of Agricultural Research (ICAR), NGOs and State Agricultural Universities (SAUs). ICAR coordinates a network of approximately 731 Krishi Vigyan Kendras (KVKs) across the country, which function as local hubs for vocational training, skill development, technology demonstrations and dissemination, and enterprise incubation (ICAR, 2024; PIB, 2025). These KVKs have been instrumental in motivating youth and women farmers to adopt entrepreneurial activities such as seed production, dairy processing, food processing, and horticulture-based enterprises, etc.
- National Horticulture Board (NHB) supports horticultural entrepreneurs by providing financial assistance, market linkages, and infrastructure

development. It aims to boost fruit and vegetable production and processing.

- National Skills Development Corporation (NSDC) collaborates with various agricultural organizations to provide skill development programs for the rural youth. It offers training and certification in various agricultural and agri-business sectors, making them job-ready or ready to start their own enterprises.

6.2. Research Organizations

The government research organizations play a significant role in promoting agri-entrepreneurship by supporting innovation, incubators, and start-up funding in agri-tech. The details are as below:

- (i) The ICAR, which functions Ministry of Agriculture and Farmers Welfare, Government of India, is the nodal agency for agricultural research, education and extension system in the country. Around 113 ICAR institutions develop technologies in agriculture, animal sciences, fisheries and veterinary and other allied disciplines. These institutions have state-of-the-art research lab facilities covering all components of agriculture and its allied activities. The technologies developed at ICAR labs have been commercialized for wider reach through entrepreneurship development. Besides, eleven regional Agricultural Technology Application Research Institutes (ATARI) located across the country are mandated to monitor, review and coordinating the KVK system besides play a vital role in strengthening agricultural extension research and knowledge management by promoting entrepreneurship.
- (ii) The State Agricultural Universities (SAUs), which are around 79, conduct research, extension, and education in agriculture with focus on the respective State. They play a critical role in disseminating improved agricultural practices, technologies, and knowledge to farmers and budding agricultural entrepreneurs. They are encouraging the agricultural undergraduates to be entrepreneurs through awareness, incubation facilities.
- (iii) Besides, the Department of Biotechnology (DBT), Government of India, supports agri-entrepreneurship by fostering biotech innovation, funding startups, and enabling technology translation from lab to farm. DBT's autonomous arm Biotechnology Industry Research Assistance Council (BIRAC) offers grants, proof-of-concept funding, and equity-support such as via seed funds and schemes like "High-Performance Bio-manufacturing for Climate-Resilient Agriculture" to agritech startups and SMEs. Infrastructure support is also provided via Biotech Parks and Incubation

Centres across the country, giving early stage ventures lab space, equipment, and linkages to industry & academia.

- (iv) The Department of Science & Technology (DST), Government of India, through its National Initiative for Developing and Harnessing Innovations (NIDHI) umbrella program nurtures ideas and prototypes through schemes such as NIDHI-Seed Support and accelerators, helping entrepreneurs turn science-based agri ideas into viable businesses implementing through various incubation centres like a-IDEA, IIT-Kanpur, ICRISAT, etc.
- (v) The Atal Incubation Mission (AIM), under NITI Aayog, Government of India, aims to foster entrepreneurship and innovation across India. It supports the establishment of world-class incubation centres called Atal Incubation Centres (AICS) that nurture start-ups by providing mentorship, funding, and infrastructure in diverse sectors. Through this initiative, the government seeks to build a robust ecosystem for innovation-driven enterprise.
- (vi) The Ministry of Agriculture launched the RKVY-RAFTAAR (Rashtriya Krishi Vikas Yojana - Remunerative Approaches for Agriculture and Allied Sector Rejuvenation) scheme which focuses on promoting innovation and entrepreneurship in the agriculture sector. It extends financial support, incubation facilities, business mentoring to agri-startups, and encouraging youth participation through RAFTAAR centres.

Thus, research organizations launched several programmes to encourage and promote entrepreneurship in agriculture directly by providing lab access, incubation facilities, providing platform for financial access, technical know-how, funding and networking facilities, etc.

6.3. Investors

Funds are life and breath to the start-ups. The innovative ideas turn into ventures only with right amount of funding at the right time. Investors play a crucial role in entrepreneurship development by providing this necessary financial support for start-ups to innovate and grow. Through venture capital, angel investing, and incubator programmes, investors help transform ideas into successful businesses.

- (i) Angel investors / High net-worth individuals (HNI) investors provide early-seed proof-of-concept funding. The amount typically in the range of tens of lakhs up to a few crores. Angels and HNIs (often via networks like Indian Angel Network or LetsVenture) provide early seed funding.

(ii) Venture capitalists - They invest more substantially in agritech /foodtech /climate-smart agriculture to the tune of around US\$130-150 million. Many growth- and early-stage startups have raised collectively over US\$2 billion in past few years. Dedicated VC firms flows into Indian agri-foodtech reached hundreds of millions annually. Over 160 agritech startups raised collectively over US\$2 billion between Jan 2020 and mid-2025 through around 246 deals. Growth-stage startups got US\$1.59B in about 60 deals; early stage had around US\$500M in around 186 deals.

(iii) Public funding / government programmes - The Government of India runs large programmes to spur agribusiness entrepreneurship in terms concessional finance, credit-linked subsidies and fund-of-funds support. The schemes include Agriculture Infrastructure Fund (AIF) which provides a ₹1,00,000 crore financing window for farm-gate infrastructure; PM Formalisation of Micro Food Processing Enterprises (PM-FME) which has an outlay of about ₹10,000 crore for micro food processors; and the SIDBI-managed Fund of Funds for Startups (FFS) has a ₹10,000 crore corpus to back AIFs that invest in startups. For promoting agri-entrepreneurship promotion among the agriculture and allied disciplines graduates, the government of India has started Agri Clinics and Agri-Business Centres (ACABCs) scheme in 2002. Through this scheme, the prospective agripreneurs are being trained besides enabling them for fund raise. They are provided hand-hold support till they are into the market with their innovative services/products in agriculture, especially in rural areas.

Thus, the investors, besides providing investment, offer mentorship, industry connections, and strategic guidance to entrepreneurs. Their involvement boosts job creation, economic growth, and the overall start-up ecosystem in India.

6.4. Lending Institutions and Bankers

The nationalised banks are mandated to fund entrepreneurs under government schemes meant for the purpose. A special fund is allotted for start-ups and entrepreneurship development in budget with annual increase of allocation.

Apart from NABARD, several public sector undertakings and private banks have invested in agri-entrepreneurship endeavours.

6.5. Other Stakeholders

Besides government and research organizations, investors and banking system, there are other players who are playing their contributory role in promotion of entrepreneurship in agriculture. Some of them are:

- (i) Non-Governmental Organizations (NGOs): At the grassroots level, many NGOs are dedicated to empowering farmers and agricultural entrepreneurs by building their

capacities and introducing sustainable farming methods. Illustrating this approach, the Deshpande Center for Social Entrepreneurship & Sandbox Hubballi (an initiative of the Deshpande Foundation) runs impactful programs—including Social Entrepreneurship Bootcamps, Idea2Impact, and Entrepreneur-in-Residence—that systematically nurture and support local entrepreneurs.

(ii) Private companies and their CSR verticals are playing their role to promote entrepreneurship in agriculture. Companies such as Samunnati, Glaxo, IKP Agri-Business Incubator, Indigram Labs Foundation, and Jain Agri Park have made impactful contribution.

(iii) Farmer Producer Organizations (FPOs) play a pivotal role in fostering agri-entrepreneurship in India by empowering small and marginal farmers, who make up 85% of the farming community. By collectivizing producers, FPOs tie up and do business with start-ups. For example, Immersion programme of a-IDEA brings together FPOs/FPCs, farmers and startups incubated in a-IDEA to showcase innovations, support networking, and explore collaborations. Its main aim is to connect FPOs/FPCs with

agri-startups to address challenges in markets, technology deployment, value-addition, and access to resources like finance, improving both startup scaling and FPO efficiency.

Overall, other stakeholders are playing their might to transform traditional agriculture into a dynamic, market-driven sector, positioning farmers as key players in India's evolving agri-business landscape.

VII. INCUBATORS' SUPPORT FOR AGRICULTURAL ENTREPRENEURSHIP

Incubators or Incubation centres provide mentoring, resources, and access to networks to help agripreneurs develop and launch their ventures. From Ideation to market launch, typically incubation period lasts from six months to one year with exception to deep-tech start-ups. India has witnessed the emergence of several agribusiness incubators and startup accelerators that play a significant role in fostering innovation and supporting agripreneurs (Table-3) which are listed below:

Table-3: Incubators supporting entrepreneurship in agriculture

Category	List of some lead incubators
Government Higher Education organizations (both central and state)	IITs; IIMs; JNTU, Hyderabad TBI; Central Universities, respective State Hubs, etc.
Research organizations	ICAR-ABIs; SAUs; DBT; DST; ABI Center at ICRISAT, etc.
Private organizations (Managed by private entities & running in PPP mode)	TiE AgriTech, Jain Agri Park (JAP), IKP Knowledge Park, Indigram Labs Foundation (ILF; Walmart Vriddhi Supplier Development Programme, TiE AgriTech Agri-Techies Nest Foundation, LVPEI BioNEST, Glasco; MLR Education Foundation - Technology Business Incubator (MLRIT), Aditya Global Business Incubator, Grameena Incubation Centre, Andhra Pradesh Innovation Society supports AP Innovation Centre for Agriculture, Foundation for Innovators in Science and Technology - Agriculture Innovation Centre, ICFAI Foundation for Higher Education Innovation and Entrepreneurship Council, UnLtd India (Hyderabad),

These incubators provide platform for agricultural entrepreneurs to develop their ideas, access resources, and receive mentorship. Incubators and programmes offer a supportive ecosystem for agricultural entrepreneurs and startups in the country. They provide mentorship, funding opportunities, access to a network of experts, and a platform for innovation and growth in the agribusiness sector. Entrepreneurs interested in agribusiness should explore respective resources to help develop and scale their ventures. For example:

ICAR – TBIs: ICAR's Technology Business Incubation (TBIs) / Agri-Business Incubation (ABIs) Centres are specialized platforms established to promote

entrepreneurship and support startups working specifically in agriculture and food sectors (Table-4). These incubation facilities aimed at turning agricultural innovations and technologies developed in research institutes into viable commercial ventures. By fostering the commercialization of agricultural technologies developed by ICAR institutes, TBIs bridge the gap between research, industry and market.

One such prominent incubator is Association Association for Innovation Development and Entrepreneurship in Agriculture (a-IDEA) set up at ICAR-NAARM in 2014 and is supported many organizations like NABARD, DST, DBT, etc. The TBI is supporting over 300 agri-startups in various stages of development.

Table-4: Prominent Agri-business Incubation Centres in ICAR

Sl. No	Incubation centre	Host institute	No. of start-ups incubated
1	a-IDEA	ICAR-National Academy of Agricultural Research Management, Hyderabad	> 300
2	Nutrihub	ICAR-Indian Institute of Millets Research (IIMR), Rajendranagar, Hyderabad	>200
3	Pusa Krishi	ICAR-Indian Agricultural Research Institute (IARI), New Delhi	> 200
4	CIRCOT ABI	ICAR-Central Institute for Research on Cotton Technology, Mumbai	16
5	CTCRI ABI	ICAR-Central Tuber Crops Research Institute	~10
6	CIFE ABI	ICAR-Central Institute of Fisheries Education, Mumbai	148
7	NaAViC	ICAR-National Institute of Veterinary Epidemiology & Disease Informatics (NIVEDI), Bengaluru	~ 11
8	NRRI ABI	ICAR-National Rice Research Institute (NRRI), Cuttack	~ 19
10	NRC Meat - ABI	ICAR-National Research Centre on Meat (NMRI), Hyderabad	63

Source: *respective ICAR websites

VIII. ROLE OF OTHER STAKEHOLDERS

8.1. Value-chain players

Supply-chain and market players form the operational backbone of the agri start-up ecosystem in India. They include aggregators, processors, logistics providers, cold-chain operators, input suppliers, exporters, and large retail/e-commerce companies. These stakeholders connect farmers and agri start-ups to wider markets, reduce inefficiencies in procurement, and add value through sorting, grading, and packaging. They also help with price discovery, working-capital management, and post-harvest loss reduction by offering cold-storage and efficient transportation. For start-ups, such players provide not only access to markets but also credibility, technical know-how, and financial linkages that enable scaling.

8.2. Regulatory Bodies

Agri start-ups operate within national and international quality and safety frameworks. The regulatory bodies like FSSAI, APEDA, DGFT, NABL, BIS, etc., enables agripreneurs with the suitable licenses. The FSSAI is central for licensing and food safety compliance, while APEDA governs agricultural and processed food exports, organic certification National Programme for Organic Production (NPOP), and export promotion. The DGFT issues Import-Export Codes (IEC), essential for cross-border trade, and the BIS sets machinery/product standards. In addition, NABL accredits testing labs to certify food safety and quality parameters. These regulatory frameworks not only protect consumers but also allow Indian agri-products to compete globally, giving start-ups confidence in their market entry and export readiness.

8.3. Consultants

Consultants play a crucial role in helping agri start-ups navigate complex compliance and certification requirements for domestic and export markets. The services include company registration, GST, DGFT's Importer Exporter Code (IEC) for cross-border trade; and FSSAI licensing for food-related activities; RCMC and APEDA registration for Exporters of products; while also guiding businesses through certifications such as HACCP, ISO 22000 for pesticide residue and quality compliance; and organic certifications under NPOP. Further, they also help in connecting to all the players in the ecosystem such as liaising with bankers, investors, supply chain players, government departments and other agencies and solve challenging and time-consuming issues confronting the entrepreneurs.

IX. CONCLUSION

Institutions have emerged as central actors in fostering agri-entrepreneurship in India, establishing an enabling infrastructure and empowering youth through finance, training, and technology. Agri-entrepreneurship is evolving beyond traditional farming into a transformative economic force, driven by technological adoption, institutional backing, and targeted policy support. Organizations such as NABARD, ICAR, APEDA, and KVKs have been instrumental in providing credit, incubation, capacity building, and market linkages. This institutional scaffolding has catalysed the exponential growth of agri-startups—from fewer than 50 before 2015 to over 7,000 by 2024—fuelled by government initiatives and private investment.

Despite this momentum, significant challenges remain, including persistent financing gaps, underdeveloped infrastructure, market volatility, climate vulnerability, and burdensome regulatory compliance. To address these barriers and sustain growth, a multipronged institutional strategy is recommended. First, incubation and acceleration mechanisms must be strengthened through intensive, one-on-one mentoring, enhanced infrastructure, and dedicated agri-focused programs. Providing seed funding and stipends to early-stage entrepreneurs will improve financial sustainability during the critical startup phase.

Second, financial and regulatory frameworks should be enhanced by mandating priority sector lending for agri-startups, offering tax benefits for corporate CSR activities supporting agri-entrepreneurs, and introducing tax incentives for entrepreneurs commercializing technologies to corporate buyers. Simplifying compliance processes will further reduce administrative burdens.

Third, fostering a collaborative multi-stakeholder ecosystem—involving government agencies, financial institutions, investors, NGOs, and industry bodies—is essential to co-create solutions, share knowledge, and leverage resources. Public-private partnerships can play a pivotal role in scaling innovations and bridging infrastructure gaps.

Finally, awareness and inclusion must be promoted through sensitization programs, competitions, and digital outreach to engage youth, women, and underserved regions. Together, these strategies will cultivate a supportive environment for agri-entrepreneurship, driving not only increased farmer incomes but also sustainable rural development and national food security. Strengthening these institutional foundations will ensure that agri-entrepreneurship continues to serve as a catalyst for equitable and resilient agricultural transformation in India.

REFERENCES

- [1] Amaran, K. (2025). Fostering the future: Agripreneurship intentions among agricultural college students. *PLOS ONE*. <https://pmc.ncbi.nlm.nih.gov/articles/PMC11830340/>
- [2] AgroSpectrum. (2025). *Agritech poised to redefine agriculture in India*. AgroSpectrum India. <https://agrospectrumindia.com/2025/01/01/agritech-poised-to-redefine-agriculture-in-india.html>
- [3] Dias, C. S. L. (2019a). Agricultural entrepreneurship: Going back to the basics. *Journal of Rural Studies*, 70, 125–138.
- [4] Chandrasekhar S & Raveendra Kumar (2024). Distinction between work and employment in rural India. *Economic & Political Weekly*, 59 (44-45).
- [5] FAO (2013). *Entrepreneurship in farming*. Food and Agriculture Organization of the United Nations. <https://www.fao.org>
- [6] FAO (2022). *Unleashing the power of young agripreneurs*. Food and Agriculture Organization of the United Nations. <https://www.fao.org/support-to-investment/news/detail/en/c/1621826/>
- [7] Global Agriculture (2024). *How many agriculture start-ups are there in India?* Global Agriculture. <https://www.global-agriculture.com/india-region/how-many-agriculture-start-ups-are-there-in-india/>
- [8] Goldar, B., & Aggarwal, S. C. (2024). *Explaining the recent significant hikes in employment in Indian agriculture* (Working paper). SSRN. <https://doi.org/10.2139/ssrn.4855847>
- [9] GoI (2024). *Economic Survey 2023–24: Chapter on Agriculture and Food Management*. Ministry of Finance. Government of India. <https://www.indiabudget.gov.in>
- [10] IBEF (2024). *Number of agri-startups jumps multifold to 7,000 in last 9 years: Report*. India Brand Equity Foundation. <https://www.ibef.org/news/number-of-agri-startups-jumps-multifold-to-7-000-in-last-9-years-report>
- [11] ICAR (2024). *Krishi Vigyan Kendras (KVKs)*. Indian Council of Agricultural Research. <https://icar.org.in/en/krishi-vigyan-kendras>
- [12] Kademani, S. B., Nain, M. S., Singh, R., & Roy, S. K. (2024). *Analysis and profiling of agri-entrepreneurship promoting institutions*. *Indian Journal of Extension Education*, 60(1), 35–40.
- [13] NABARD. (2025). *Empowering rural entrepreneurs: Rural Business Incubation Centres and technology commercialization programmes*. National Bank for Agriculture and Rural Development. <https://www.nabard.org>
- [14] NABARD. (2024a). *Annual report 2023–24*. National Bank for Agriculture and Rural Development. <https://www.nabard.org>
- [15] NABARD. (2024b). *Highlights of the SHG-Bank Linkage Programme (2023–24)*. National Bank for Agriculture and Rural Development. <https://www.nabard.org>
- [16] Pan, Y. (2024). The impact of entrepreneurship of farmers on agriculture and rural economic development. *Technology in Society*, 76, 102308. <https://www.sciencedirect.com/article/pii/S2949753123000619>
- [17] Pandhare, A. (2024). Transforming rural women's lives in India: The impact of microfinance and SHG entrepreneurship. *Journal of Innovation and Entrepreneurship*, 13(1), 1–19. <https://innovation-entrepreneurship.springeropen.com/articles/10.1186/s13731-024-00419-y>
- [18] PIB (2025). *Krishi Vigyan Kendras (KVKs) – Host institution distribution*. Press Information Bureau. Government of India. <https://pib.gov.in>
- [19] Ramakumar, R., 2024. "India's Agricultural Economy, 2014 to 2024: Policies and Outcomes," Review of Agrarian Studies, Foundation for Agrarian Studies, vol. 14(01), June.
- [20] Singh, K. M., Meena, M. S., Singh, R. K. P., Kumar, A., & Kumar, U. (2013). Agricultural Technology Management Agency (ATMA): A study of its impact in pilot districts in Bihar, India. *Journal of Community Mobilization and Sustainable Development*, 8(1), 23–30.

- [21] Thephavanh, M., Philp, J. N. M., Nuberg, I., Denton, M., & Larson, S. (2023). *Perceptions of the Institutional and Support Environment amongst Young Agricultural Entrepreneurs in Laos*. *Sustainability*, 15(5), 4219.
- [22] World Bank. (2024a). *Assam Agribusiness and Rural Transformation Project (APART): Project information*. World Bank. <https://documents1.worldbank.org/curated/en/099930408072426835/pdf>
- [23] World Bank. (2024b). *World Bank supports project to modernize agriculture systems in India's Uttar Pradesh state, benefiting 1 million farmers*. <https://www.worldbank.org/en/news/press-release/2024/12/12/world-bank-supports-project-to-modernize-agriculture-systems-in-india-s-uttar-pradesh-state-benefiting-1-million-farmers>